

Remarks

Claims 1-13 are pending in the application. The Examiner has rejected claims 1-5, 7-11 and 13 and has objected to claims 6 and 12.

The Examiner has objected to the drawings because of discrepancies in Figure 2 regarding reference numbers 20, 21 and 22 and because the reference number 19 appears in Figure 2 but is not mentioned in the specification. In response, the Applicant has provided a replacement sheet containing an amended Figure 2 wherein reference "21" has been replaced by reference "A", reference "19" has been replaced by "17", reference "22" has been replaced by "B" and reference "20" has been replaced by "14".

The Examiner has objected to the specification because of the misspelling of the word "axle" as "axel" in paragraphs 19 and 26. In addition, the Applicant has discovered another misspelling of the same word in paragraph 10. As a result, paragraphs 10, 19 and 26 have been amended to correct the spelling mistake. The Applicant wishes to point out that this is the only reason these paragraphs were amended and the amendments in no way are in response to any rejection or objection based on prior art.

The Examiner has also objected to Claims 2, 3 and 7 based on the misspelling of the word "axle" therein. In response, the Applicant has amended Claims 2, 3 and 7 to correct the misspelling. As with the specification, the sole reason that these claims were amended was to correct the misspelling and not in response to any rejection or objection based on prior art.

The Examiner has objected to Claims 9 and 13 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enabling requirement. Specifically, the Examiner states the specification does not describe a "hollow sheathing." In response, the Applicant has modified Claims 9 and 13 to remove references to a sheathing. In addition, the Examiner has rejected Claims 10-12 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to point

out and distinctly claim the subject matter. Specifically, the Examiner points out that Claim 10 uses the word "attachment" in an ambiguous manner, as that word is also used in Claim 2. In response, the Applicant has modified Claims 10 and 11 to replace the word "attachment" with the word "apparatus".

The Examiner has rejected claims 1-5 and 7-10 under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 4,682,749 (Strater). The Examiner states that all elements of Claims 1-5 and 7-10 are disclosed by Strater. The Applicant respectfully disagrees with the Examiner's conclusions regarding the similarities between Strater and the present invention.

In general, Strater discloses an articulated arm (for supporting a copyholder) having two linkages wherein the linkages are prevented from moving with respect to each other by brake shoes which are present at the pivot points between the linkages. The brake shoes are composed of a segmented ring having one gap therein such as to allow the ring to be expanded when the ends of the gap are pushed away from each other. The outside edge of the ring is frictionally engaged with a stationary surface located concentrically therewith to prevent pivoting of the linkages about the pivot points when the brake is engaged. The brake is engaged or disengaged by forcing the gap in the segmented brake shoe to become larger or smaller utilizing an expanding element having a long and short axis which is rotated in the gap to bring about the change in the geometry of the brake shoe. The elements responsible for expanding the gap in the brake shoes are rotated by means of a cable which is actuated by the user of the device.

The Applicant will now discuss the differences between the device in Strater as cited by the Examiner, and the present invention. As with the present invention, the device of Strater discloses a mechanical arm having first and second linkages wherein the first linkage is attached to the base at a first pivot (8) and the first linkage is pivotably attached to the second linkage at a

second pivot (9). The Examiner then states that Strater discloses a first spring (25) attached between an anchor point (30) defined on the first linkage and the first pivot and a second spring (25) attached between an anchor point (30) defined on the second linkage and the second pivot.

This arrangement is distinguishable from the mechanical arm of Claim 1 of the present invention. Claim 1 of the present invention contains the limitation that "the first spring is attached between an anchor point defined on the first linkage and the first pivot point." The first spring (25) in Strater, however, is attached neither to the first linkage (5) nor to the first pivot point (8). Instead the springs in both linkages in Strater are compressively held in place by shoulders defined on twin segmented guide rods whose individual guide rod segments (26 and 27) are in telescoping engagement with each other. The Applicant wishes to bring the Examiner's attention to a paragraph describing this in Strater which begins at column 6, line 29 and ends at column 6, line 35 and which states as follows:

The coil compression springs 25 are slotted on twin segmented guide rods whose individual guide rod segments 26 and 27 are in telescoping engagement with each other. At both ends of the guide rod on the individual guide rod segments 26 and 27 shoulders are provided on which the coil spring 25 is braced in a partially compressed or prestressed position.

The purpose of the spring in Strater is to push the guide rod segments apart from each other. One of the guide rod segments (27) is attached to the linkage and the other guide rod segment (26) is attached to what Strater refers to as a turning lever (23) which is in turn pivotably attached to a spreading member (21) which is responsible for spreading the brake shoe. The object of the spring is to hold the spreading member (21) in a rotated position such that its long axis occupies the gap in brake shoe (19) such that the brake shoe is frictionally engaged with circular grooves 18 thereby preventing the linkages from moving.

This is different from both the structure and the purpose of the springs in the present invention. In the present invention the springs are connected directly between the linkages and

the circular axles in each pivot point, with the theory being that, as the linkages are rotated, the spring will wrap around the axles at the pivot points, thereby providing a variable resistance depending upon the position of the linkages with respect to the pivot points. The spring of the second linkage is identical.

As the Applicant has shown, the spring of Strater is not attached between (1) an anchor point defined on the linkage, or (2) a pivot point. Therefore, the elements in Claim 1 dealing with the spring in both the first linkage and the second linkage are not met. As a result, the Applicant submits that Claim 1 is distinguished from Strater.

The Examiner further states that Strater discloses first and second pivots which comprise a first axle (14) and a second axle (14), respectively, a first ring (19) disposed around the first axle and a second ring (19) disposed around the second axle and wherein the springs are attached to the pivots via an attachment (21, 23 and 24) to the rings. In response, the Applicant points out that reference (14) in Strater refers to a bolt (see column 5, line 33) whereas the axles 5 and 6 in the present application are rings as shown in Figure 2 of the present application. Additionally, what the Examiner refers to as a first ring (19) as disclosed in Strater is in actuality the brake shoe as can be see from column 5, lines 43 through 46. This is not a ring, but a segmented arc. Further, the Applicant respectfully disagrees that the springs shown in Strater are "attached to pivots via an attachment to the rings". In the case of Strater, the springs are, as previously discussed, compressed between the shoulders of the guide rods. In addition, what the Examiner refers to as attachments 21, 23 and 24 are in reality not even attached to the "ring" (brake shoe) 19. Element 24 in Strater is a pivot pin which pivotally connects one end of the guide rod to turning member 23, which in turn is pivotally attached to spreading member 21. Spreading member 21 is the element which pushes the ends of the arc-segmented brake shoe 19 away from each other thereby widening the gap in the brake shoe. As such, there is no actual physical

attachment between elements 21, 23 and 24 in Strater and what the Examiner refers to as the "ring" 19, and, as such, no attachment between the spring and the ring. To make this difference clearer, Claim 2 has been amended to make it clear that the springs are attached to the rings.

With respect to the cable element, Strater utilizes cables (15 and 16) which are actuated by a user to pull the pivot point between one segment of guide rod (25) and turning lever 23 into a position which causes the spreading member (21) to rotate in the gap in brake shoe (19) such as to make the gap smaller (thereby releasing the brake shoe from frictional engagement with the pivot). In this case, the cable works against spring (25) which is exerting a force to rotate spreading member (21) in such a manner as to make the gap wider. When the cable is pulled, the turning member is rotated such that the gap is made smaller thereby allowing the linkages to rotate about the pivot points (i.e., the brake shoe is no longer frictionally engaged).

This differs from the cable of the present invention which is attached between the two pivot points (i.e., around the first ring and the second ring as claimed in Claim 3). The purpose of the cable in the present invention is to keep the first and second rings in the same position relative to each other and relative to the horizon as the linkages are rotated. In the present invention the first ring, which is the ring nearest the base, is fixed and is unable to rotate. The second ring is able to rotate about pivot point B and is attached to the first ring via the cable such that when the linkages rotate around the rings, the rings stay stationary with respect to the horizon (i.e., neither ring rotates). Therefore, the limitations of claim 3 and 4 are not met by the cable disclosed in Strater.

The Examiner has rejected Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Strater in view of United States Patent No. 5,108,061 (Vlasak) or United States 4,447,031 (Souder, Jr. et al.) or United States Patent No. 6,550,734 (Spadea). In addition, the Examiner has rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Strater for obviousness.

These claims are dependent upon claims which the Applicant now believes are patentable in light of the amendments and remarks herein that distinguish those claims from the prior art.

Therefore, the Applicant submits that, should Claims 1-10 be found to be patentable in light thereof, Claims 11 and 13 will also be patentable.

The Applicant appreciates the Examiner's notification that Claims 6 and 12 would be allowable if rewritten to be in independent form, however, the Applicant now believes that the claims from which Claims 6 and 12 depend are patentable in view of the arguments herein differentiating those claims from Strater, and therefore declines at this time to rewrite Claims 6 and 12 in independent form. The Applicant would, however, like to reserve the right to do so at a future time.

Conclusion

The Applicant has distinguished the present invention via amendments and remarks from the primary piece of prior art cited by the Examiner in the rejections of the claims, namely Strater. The Applicant points out that the structure and purpose of the springs in Strater and the present invention and the structure and purpose of the cable in the present invention and Strater are different from each other as discussed above. Further, the Applicant respectfully requests that the Examiner reconsider all currently pending claims of the application. The Applicant also requests that, should the Examiner have any questions regarding this application, that the Examiner contact the Applicant's attorney listed below.

Respectfully submitted,



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